



Wood resources availability and demands

Implications of renewable energy policies



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? **How much wood is being used today?**

Before assessing future potentials, the current situation has to be known...

? **What are the consequences of current energy policies?**



Purpose of the study

1. Wood use today (2005)

- 1.1 Method and structure of wood resource balance
- 1.2 Results

2. Future wood use 2010/2020

- 2.1 EFSOS projections of the forest sector
- 2.2 Renewable energy policies
- 2.3 Wood requirements for both sectors

3. Conclusions



Wood resource balance

- ✓ Calculated independently sources and uses of wood supply

Wood resource balance methodology

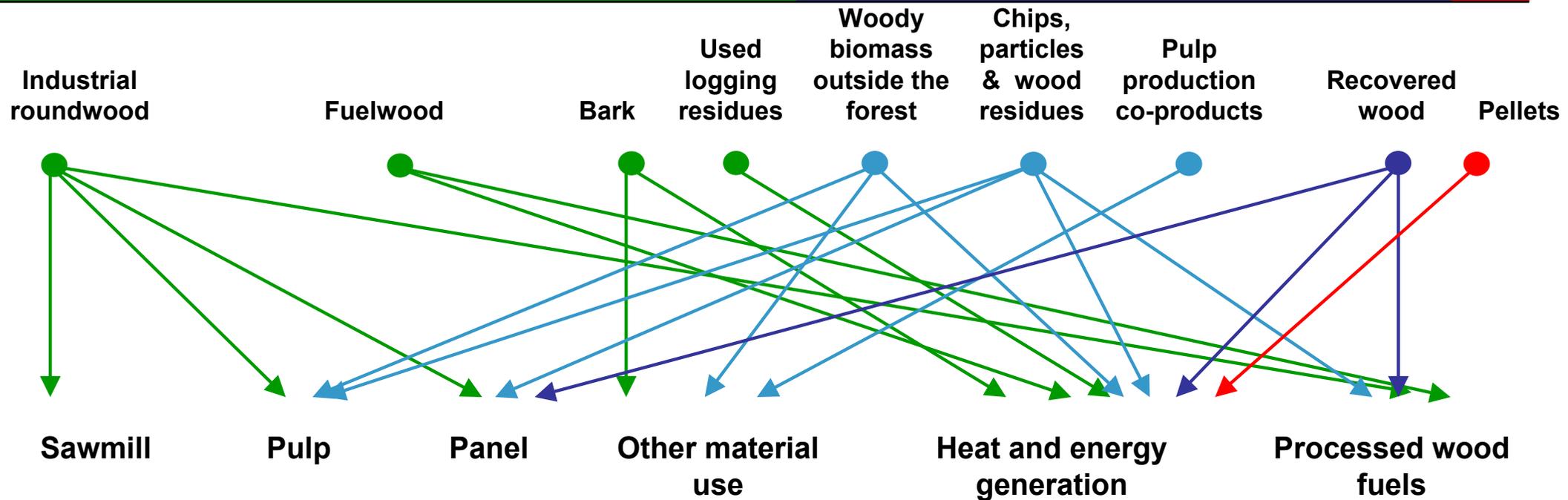
improves comprehension of:

- ✓ linkages between wood and energy sectors
- ✓ data validation

Empiric research crucial

Wood sources and use

Components of wood raw material supply



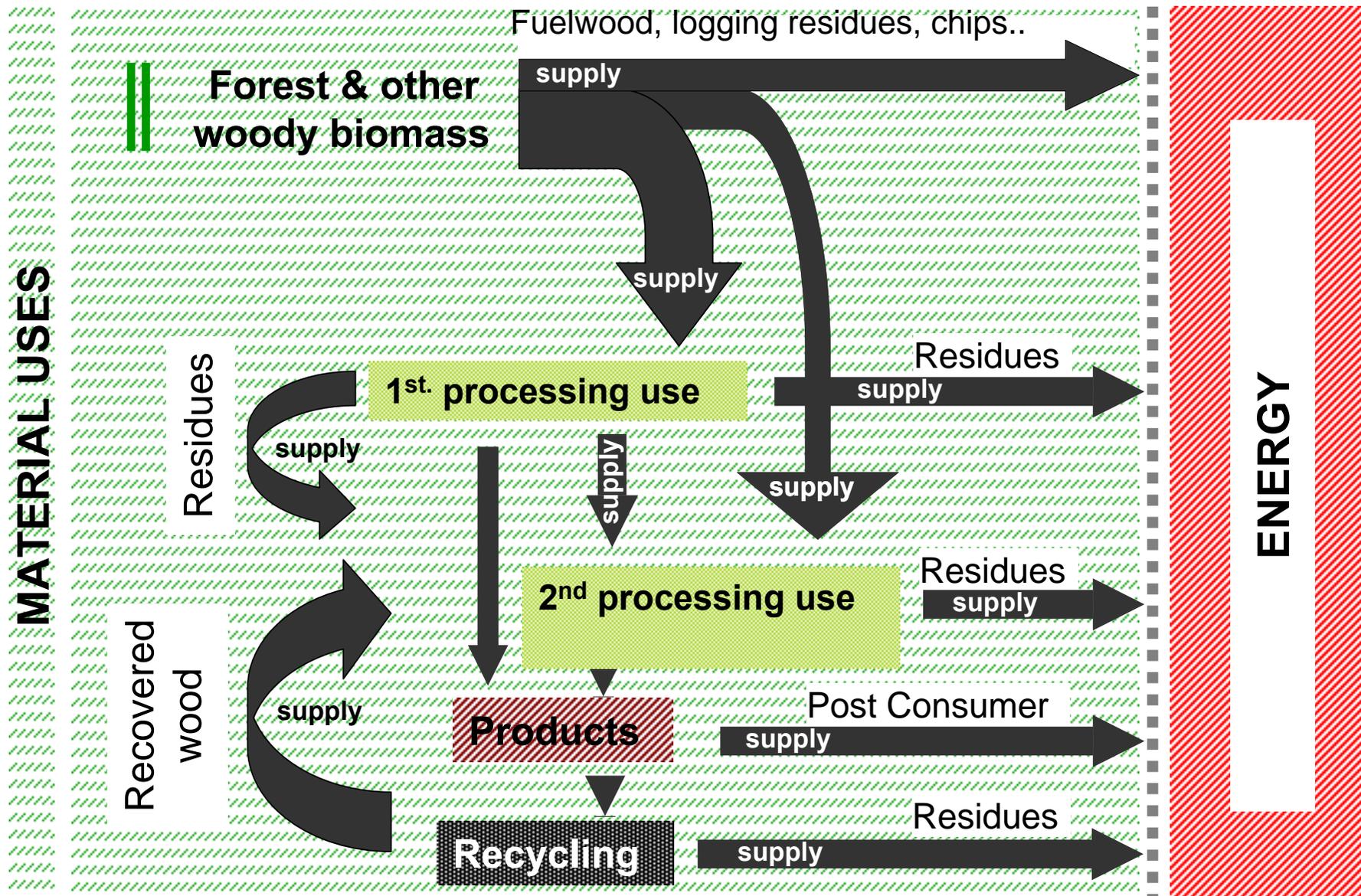
Components of wood consumption



Counting multiple use

- Wood can be reused
- Quantifying multiple use demonstrates its overall importance.
- As long as any resource is always added on both sides, it only expands the balance sheet total.
- Balance sheets for special resources can be calculated

1.1 Multiple use of wood fibers



1.1 Calculation



3 ————— **Regional wood balance** —————



2 ————— **Minimum / Maximum / Best estimate per item** —————



1 ————— **Different databases** —————

1.2 Results European wood resource balance

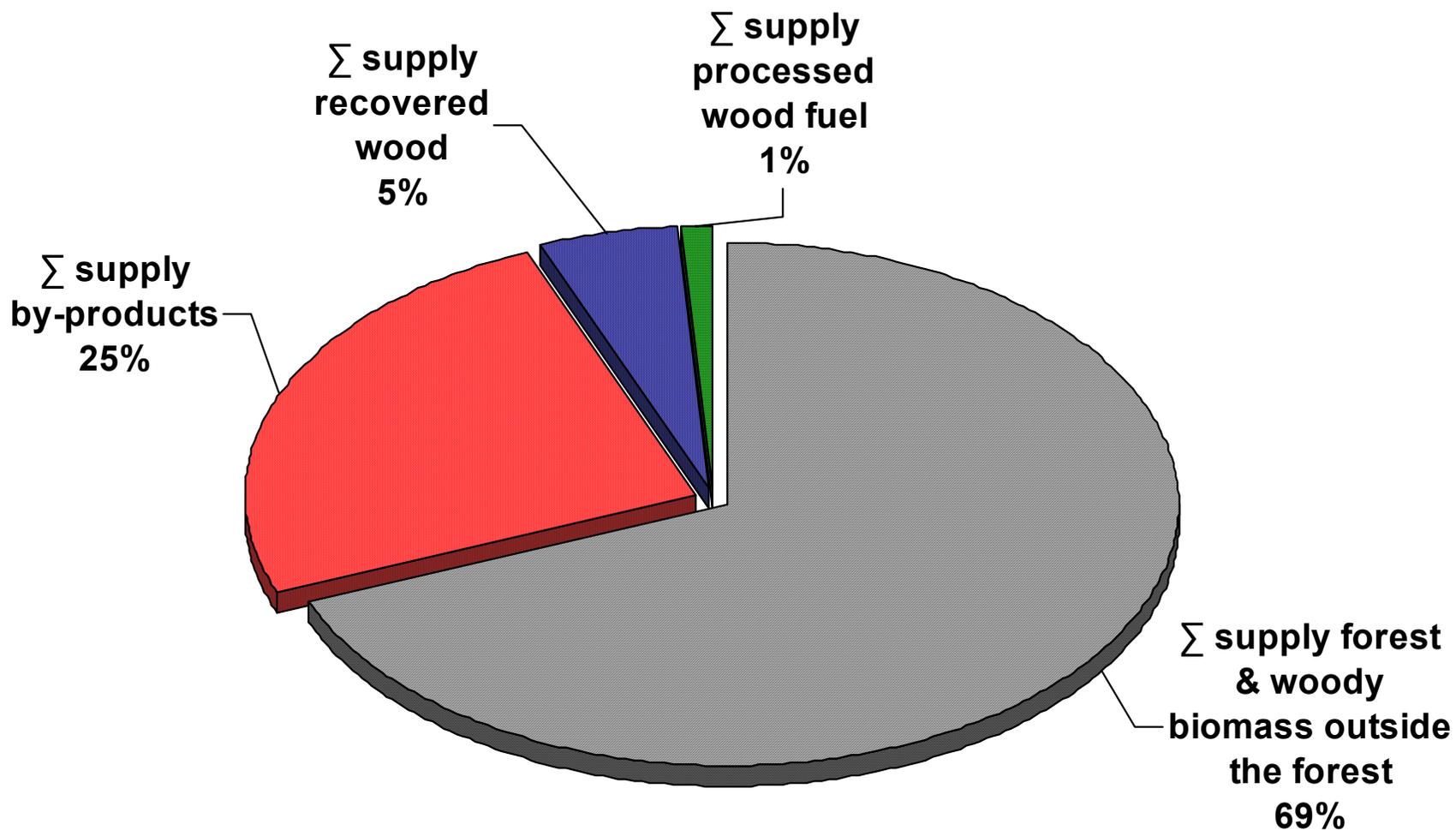


sources			uses		
	[mio. m ³]	%	%	[mio. m ³]	
Industrial Roundwood - JFSQ	377	49%	26%	214	Sawmill industry
Industrial Roundwood - unrep.	26	3%	11%	89	Panel industry
Fuelwood - JFSQ	56	7%	19%	155	Pulp industry
Fuelwood - Maximum unrep.	29	4%	2%	14	Other physical utilization
Bark	12	2%	1%	6	wood fuel industry
Used logging residues	17	2%	6%	49	Power and heat
Woody biomass outside forest	13	2%	7%	61	Industrial internal
Chips, particles & residues	122	16%	12%	96	Private households
Pulp production co-products	72	9%	17%	138	Undifferentiated energy use
Recovered wood	42	5%			
Processed wood fuel	6	1%			
Σ supply total:	774.627	▲ 46.661		821.288	Σ use

1.2 Results



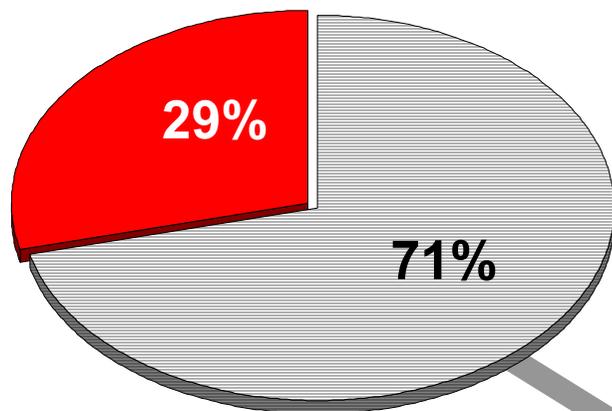
Wood supply EU / EFTA (2005)



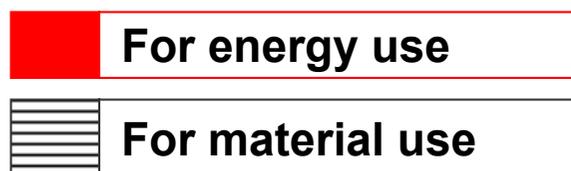
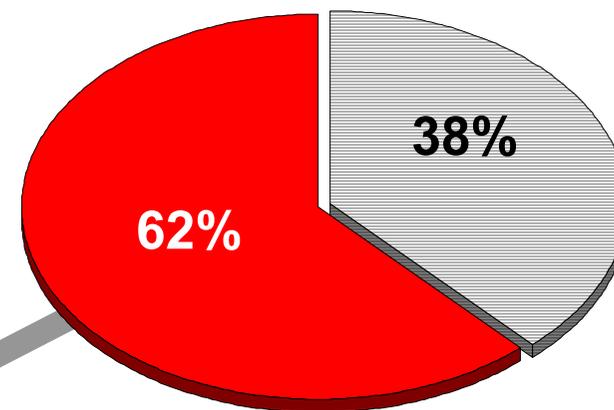
1.2 Results



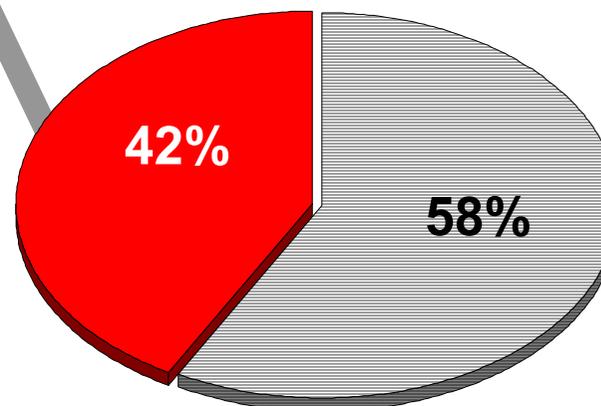
Wood removals 2005
from forest and woody biomass
outside forests



Wood co-products, residues
& recovered wood



Total supply





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2. Future wood use and supply



Methodology

Future developments of the
wood processing industries:

→ EFSOS baseline scenario

Future **wood energy** developments:

→ Renewable energy policies and targets
(national and EU)



EFSOS updated on 2004-2006 basis

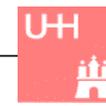
Updated EFSOS wood supply:

- Roundwood removals
- Co-products from wood processing

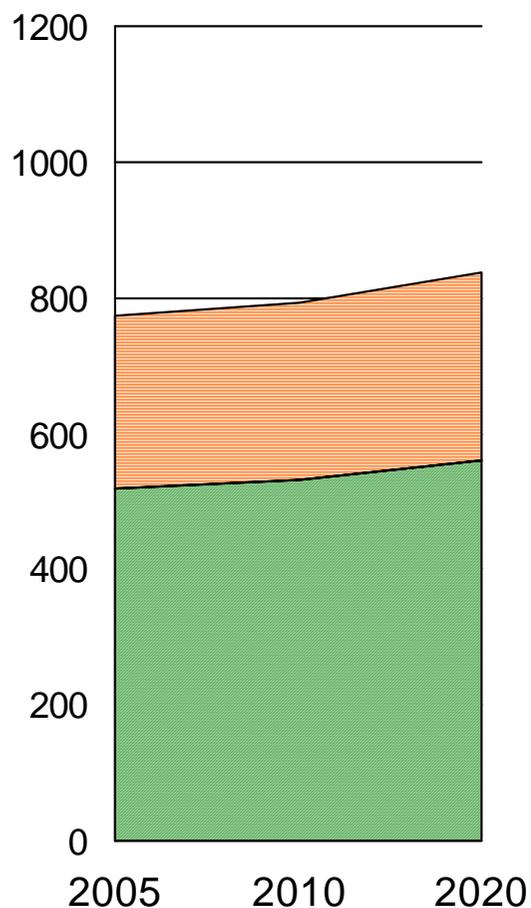
Updated EFSOS material use:

- Pulp production
- Sawnwood production
- Panel production

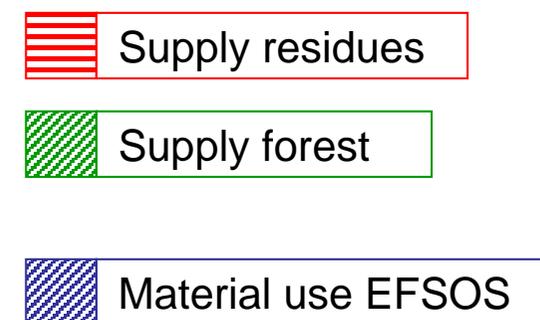
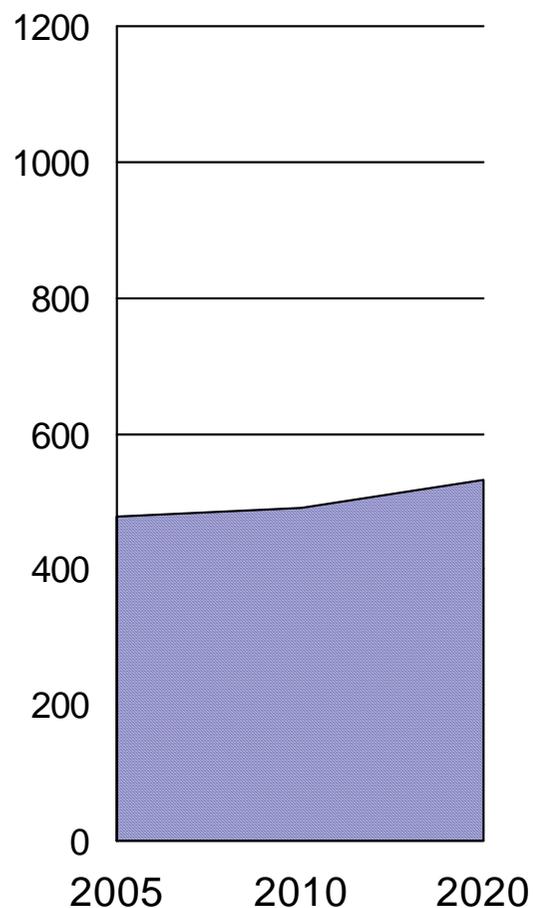
2.1 EFSOS projections of the forest sector



Calculated future wood supply [mio m³]



Calculated material use [EFSOS]





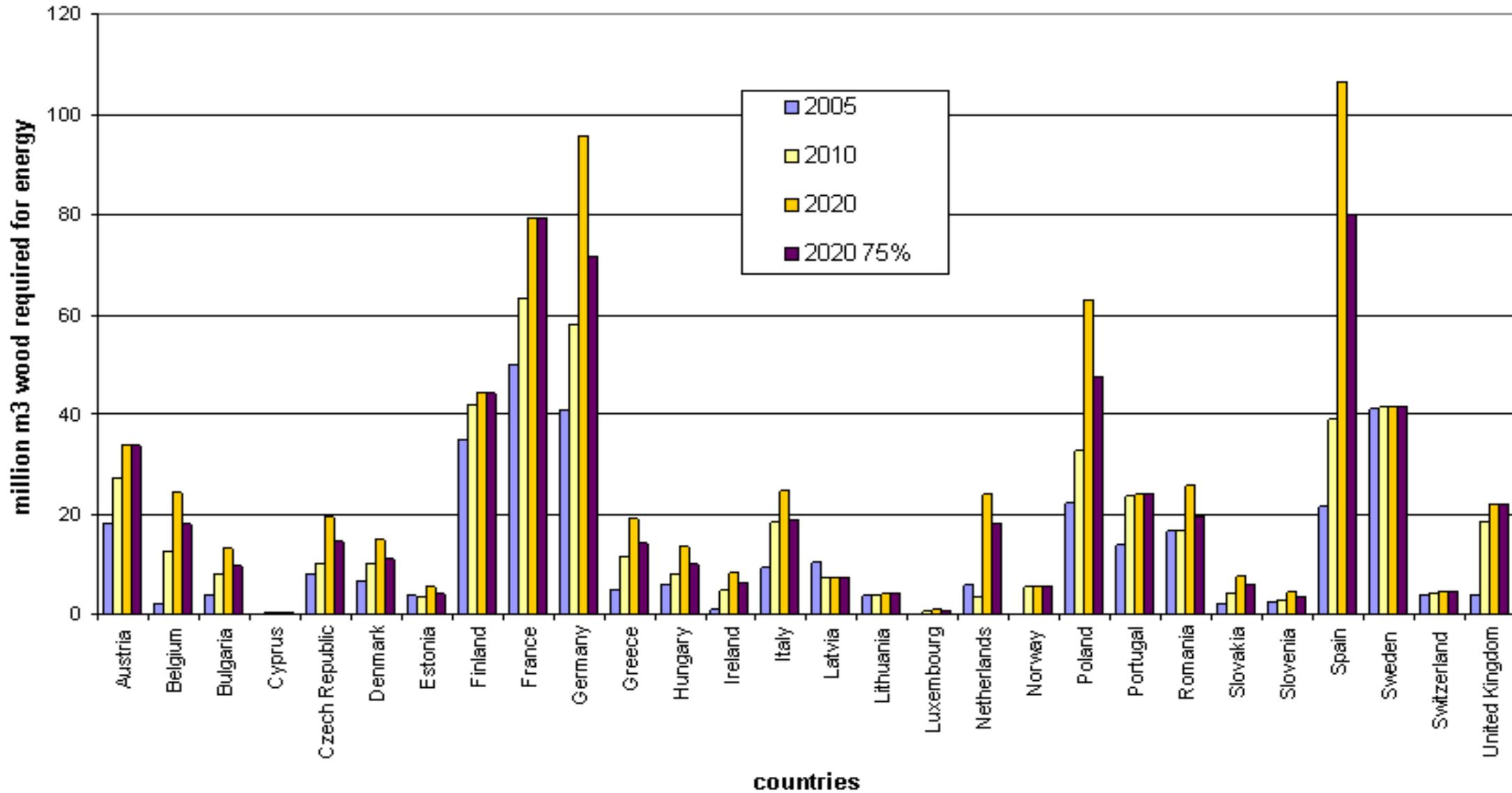
Calculation of wood requirements:

1. scenario for total primary energy supply
2. national policy target for renewable energy
3. national target for bioenergy (or 2005 share)
4. target for wood energy (or 2005 share)

75% scenario for 2020:

Decreasing importance of wood energy among RES

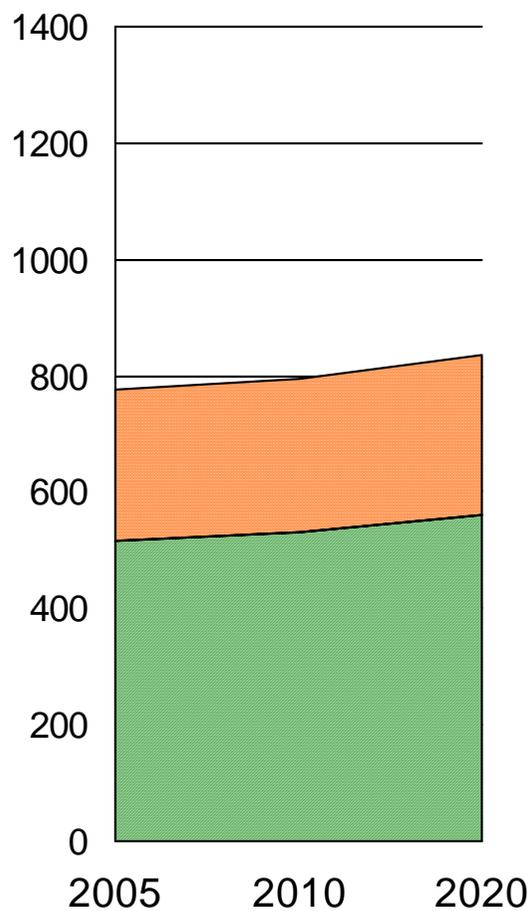
2.2 Renewable energy policy targets



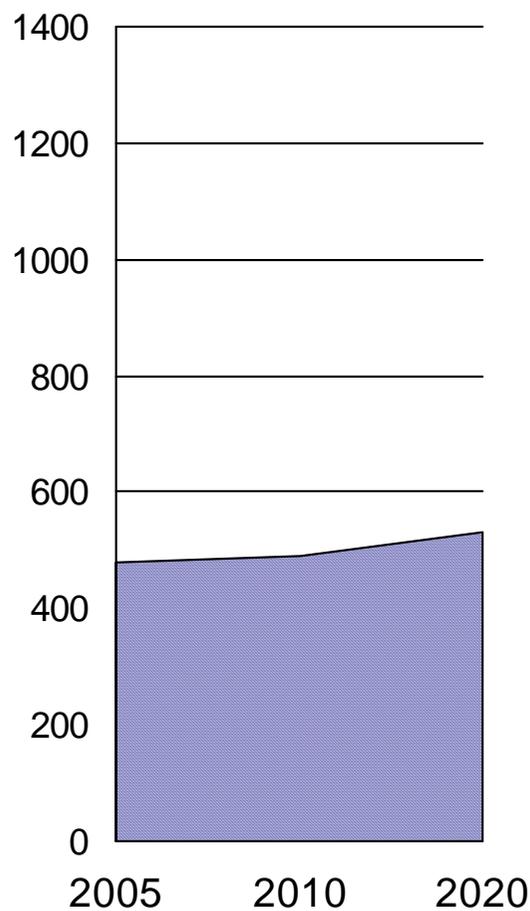
2.3 Wood requirements for both sectors



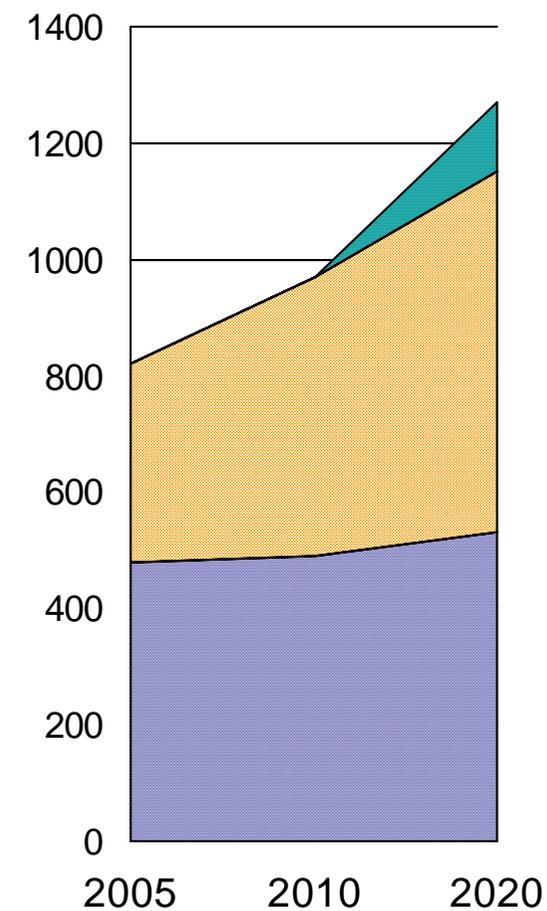
Calculated future wood supply [mio m³]



Calculated material use [EFSOS, mio m³]



Combined wood use [mio m³]



Supply forest

Supply residues

Material use EFSOS

Energy goal 75%

Energy goal 100%



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1. Wood resource balance shows broad patterns of supply and demand.
2. Future “gap” size for discussion, but not general direction
3. Overall energy and resource efficiency crucial
4. Significance of the "gap":
 - increased wood supply needed (from existing or new sources, or through imports),
 - policy targets will not be met (with wood),
 - wood-based industries development at question.

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5. Empiric research needed on:

- Unknown and unrecorded sources and
- conversion factors

6. Analyse potential wood supply from all sources

7. Discuss concept and level of sustainability

8. Follow-up



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